

REMARKS

Claims 1-10 and 12-41 are pending. Claims 1-10 and 12-41 stand rejected. Claims 1, 10, 13, 14, 16-22, 25, and 26 have been amended. Support for the amendments can be found throughout the specification and the original claims, for example, original Claims 15, 22, and 28; paragraphs 0011, 0015, and 0016; and FIGs. 1A and 4. No new matter has been added by these amendments.

Possible Restriction Requirement

As an initial point, Applicants note that during the Interview, the Examiner commented that the claims may encompass different inventions. If so, Applicants invite the Examiner to restrict the claims as appropriate (under 35 U.S.C. §121), based on the assumption that the Applicants will be able to pursue the restricted claims in a subsequent divisional application.

Pending Claims 1-10, 12-21, 25-34, 36, and 41

For ease of review of the present Response, Applicants note that Claims 1-10, 12-21, 25-34, 36, and 41 recite a novel and nonobvious combination of either a device involving, or method of using, a) a remotely controlled valve, b) a power saving aspect in which a wireless receiver is repeatedly switched on and off until a specific condition occurs, and c) a remote control for controlling the remotely controlled valve via the wireless receiver. These claims are nonobvious for at least the reasons noted in the following sections (as well as those noted in previous Responses).

Amended Claims 1-10, 12-14, 25-27 and 41 are nonobvious

Claims 1-10, 12-14, 25-27 and 41 stand rejected under 35 U.S.C. §103(a). In particular, the Examiner has asserted that DeVito's teaching of a hose reel on a fuel truck and Erickson's teaching of a flow controller on a garden hose, in combination with Carrio's asserted teaching of a remote control that can wind and unwind a reel, make the presently claimed combination obvious. In particular, the Examiner has asserted that "it would have been obvious to [provide] a flow controller in order to control the flow rate of the outdoor hose faucet...." While Applicants do not agree with the Examiner's analysis of the issues, Applicants have amended the

independent claims such that they now recite a power savings aspect, similar to what was previously recited in Claims 15, 28, and/or 31. Applicants respectfully submit that these amendments patentably distinguish the claimed invention from the Examiner's proposed combination of the cited references. Moreover, for the reasons noted in detail below, in regard to Claims 15, 28, and/or 31, the Office Action has not provided a *prima facie* case of obviousness for the use of a power saving element in the presently recited combination. As such, Applicants request that the rejection be withdrawn and that the claims be allowed.

Claims 15, 18, 21, 28, 31-34, 36, and 37 are Nonobvious over Rudrich, DeVito, and Erickson (as well as Current Claims 1-14, 25-27, and 41).

The Examiner has rejected Claims 15, 18, 21, 28, 31-34, 36, and 37 as unpatentable over DeVito in view of Erickson and Rudrich. The Examiner has found that Erickson teaches a remote control for controlling a valve. The Examiner has asserted that Rudrich teaches a power saving system that includes a wireless receiver and a power control unit that repeatedly switches the wireless receiver between powered and unpowered states. The Examiner has asserted that it would have been obvious to combine Rudrich with the other references "in order to reduce power usage as taught by Rudrick..." Applicants respectfully traverse the rejection.

In its recent decision in *Teleflex Inc. v. KSR Int'l Co.* (82 USPQ2d 1385, 2007) the Supreme court reemphasized the importance in following the four factual inquires enunciated in *Graham v. John Deere Co.* in determining obviousness. These inquires are as follows: (A) determining the scope and contents of the prior art; (B) ascertaining the differences between the prior art and the claims in issue; (C) resolving the level of ordinary skill in the pertinent art; and (D) evaluating evidence of secondary considerations. Furthermore, in order to establish a *prima facie* showing of obviousness, three basic criteria must be met. First, there must be some reason or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success in their combination. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. (M.P.E.P. 2143). Applicants respectfully submit that the differences between the prior art's teachings and the presently claimed combination are more substantial than appreciated in the

Office Action. In particular, the distinctions in the art are so significant that one of skill in the art would not have had a reason to combine the various references. In addition, Applicants submit that one of skill in the art would not have expected the Examiner's proposed combination to work. Each of these issues is discussed in more detail below.

Teachings of the Cited Art.

Applicants note that Rudrich is directed to proximity sensors associated with touchless sensors that are commonly used in sanitary fixtures (*see, e.g.*, field of the invention). The basic function of these devices is to be able to control water without requiring people to touch a common device or surface. The device in Rudrich sends a signal that bounces off of a potential user and returns to the same device for detection. Thus, in Rudrich, the same device sends and receives signals. Because of this, Rudrich's transmitter and receiver are both necessarily powered when any signal is sent and is to be received (col. 1, lines 14-25). Rudrich teaches that these devices use signals having a certain frequency pattern to avoid the detection of any external or "foreign" signals that did not originate from the device itself. (Col. 1, lines 29-43). Thus, Rudrich's device is generally taught as including key elements that prevent it from being operated by external control sources (col. 1, line 29). Rudrich does appear to discuss an aspect that could be used to save power in his device, namely, the inclusion of an additional light sensor that can detect ambient light in a room, and in turn alter the cycling period. (*See, e.g.*, Claim 1).

Differences Between the Cited Art and the Claimed Invention

As noted above, a proper analysis of obviousness requires one to consider the differences between the teachings in the cited art and the claimed invention as a whole. In the present case, Applicants submit that there are significant differences between the teachings in the cited references and the claimed combination.

Applicants respectfully submit that the differences between Rudrich's device and the presently claimed device are so significant as to prevent one of skill in the art from having a reason to combine the teachings of Rudrich with DeVito, as proposed by the Examiner.

As an initial point, Applicants note that the pulse train disclosed in Rudrich as part of the device is taught as required in order to prevent signals from a different location from activating the device (*e.g.*, col. 1, lines 30-43). Therefore, Rudrich actually appears to teach away from an

embodiment in which an external signal (e.g., a remote control) is used to activate the device. As the Examiner is aware, it is improper to combine references when the references teach away from their combination. (“It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)” M.P.E.P. §2145).

Furthermore, Applicants note that the device in Rudrich is arranged so as to run water when one is near the actual device, making the use of a remote control with Rudrich’s device even more incompatible.

Finally, Applicants note that the use of a remote control in Rudrich’s device would require users to *share* the remote control. As will be appreciated by one of skill in the art, this would defeat the purpose of these sensors in Rudrich (which is to allow patrons to avoid contacting a shared surface during use). Applicants respectfully note that modifications that defeat the intended purpose of a device are generally impermissible modification/combinations. (“If [a] proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)” M.P.E.P. §2143.01).

As is clear from the above, there are numerous, and significant, differences between the actual teachings in Rudrich, and the claimed device. Applicants respectfully submit that these differences are so significant as to prevent one from having a reason to combine the references as suggested by the Examiner. In light of this, Applicants respectfully request that the rejection be withdrawn and the claims allowed.

No Reasonable Expectation of Success.

As noted above, in order to establish a *prima facie* showing of obviousness, the Examiner must demonstrate that one of skill in the art would have had a reasonable expectation of success that the proposed combination would work. In the present case, one of skill in the art would not have had a reasonable expectation of success that the Examiner’s proposed combination of the teachings of Rudrich and DeVito would have worked.

First, the power switching aspect in Rudrich is generally incompatible with the placement of the transmitter in a separate remote control. In particular, the power switching aspect taught in Rudrich requires the wireless receiver to be on at the same time as the transmitter. Such an arrangement ensures that when a signal is sent out by the transmitter, it can be detected by the receiver because the entire device is powered. In contrast, the claimed invention (and the Examiner's proposed combination) involves a wireless receiver and a remote control. As is appreciated by one of skill in the art, in light of the present disclosure, the remote control can be activated independently of the powered state of the wireless receiver. Because of this, the remote control can be activated when the wireless receiver is not powered. If this happens, no signal will be detected and the device will not work. Indeed, unless specific issues regarding the possible transmission of a signal while the receiver is off are considered and addressed (as has been done in the present application), the device would not work as desired.

Furthermore, it is not clear from the cited art or the rejection how one could modify Rudrich's teachings to obtain an embodiment that works. In order to have both the receiver and transmitter powered at the same time, Rudrich teaches that both the transmitter and receiver should be controlled by a single control circuit. This allows one to coordinate the powered states of the parts for sending the signal and receiving the same signal. As noted above, this coordination of the powered states of the receiver and the transmitter is essential for Rudrich's device to operate. However, the Examiner's proposed modification would prevent the receiver and transmitter from being controlled by the same control circuit because the transmitter (*i.e.*, remote control) would be physically separate from the receiver. Moreover, Applicants respectfully submit that Rudrich does not disclose how or why one could modify the teachings of Rudrich so that it would work in the embodiment that was described by the Examiner. As such, one of skill in the art would not have had a reasonable expectation of success that the Examiner's proposed combination would have worked.

In light of the above, Applicants respectfully submit that the claims reciting this power saving aspect (Claims 15, 18, 21, 28, 31-34, 36, 37, 1-14, 25-27, and 41, as well as the claims that depend therefrom) are nonobvious and Applicants request that the rejection be withdrawn and the claims allowed.

Claim 10 is Nonobvious

Applicants note that the Examiner did not address the elements recited in Claim 10 in the rejection or the previous Office Actions.¹ As such, not all of the elements have been taught by the combination proposed in the current Office Action and a *prima facie* case of obviousness has not been established.

During the Interview, the Examiner noted a teaching in U.S. Pat. No. 6,178,992 to Van Der Paal (herein after the “‘692 patent”), a reference that was previously cited in the Examiner’s PTO-892 but not discussed in the Office Action, which appears to disclose a wired controller mounted on the end of an air hose. During the Interview, Applicants’ representative noted that the ‘992 patent, while teaching the presence of a wired control on the end of an air hose, is not applicable and would not be combined in the manner claimed.

First, the reason the control is mounted to the hose in the ‘992 patent is because it must be (*i.e.*, the control is part of a wired control system). However, if a wireless controller was used (*e.g.*, as in DeVito), there would have been no need or desire to attach the device to the end of the hose. Indeed, DeVito itself explicitly teaches away from this combination and clearly establishes that, once one uses a wireless controller, one should not place the remote control on the end of the hose (*see, e.g.*, col. 1, lines 27-38). DeVito notes that such positioning can result in damage to the remote control, undesirable electrical signals, and other “serious disadvantages” (Col. 1, lines 27-38). Thus, the prior art clearly taught away from the combination of a wireless remote control and its attachment to the end of the hose.

Secondly, while it may be possible to place an electric device on a hose device that will be associated with air (as in the ‘992 patent), the presently claimed device involves a water hose and thus will be used in water related applications. One of skill in the art would not have wanted to place electronics in a wet environment if one could avoid it. Thus, if one of skill in the art were given the option of using a wireless controller to control the flow of water through a hose, they would have kept the remote control detached from the end of the hose in order to minimize the risk of shorting out the electronics in the remote control.

¹ The “hose control system of Claim 1, ...the remote control being mounted proximate a distal end of the hose.”

In light of the clear teaching away provided by DeVito and the problems prevalent with electronics in a water environment, one of skill in the art would not have placed the remote control on the distal end of the hose. As such, the presently claimed combination is nonobvious over the previous rejections, even in light of the teachings of the '992 patent.

Claims 13, 26, and 27 are novel and nonobvious.

Claim 13 recites that the remote control is "configured so that a single command from the remote control both moves the valve to close the fluid flow path and operates the motor to rewind the drum onto which a hose can be spooled." (Emphasis added). Claims 26 recites "closing a valve to prevent fluid flow through a hose system in accordance with said wireless command signal; and rewinding a hose reel device in accordance with said wireless command signal." (emphasis added). Claim 27 recites the use of an electrically activated valve and an electric motor. In general, these claims recite that a single command can both shut off of the flow of fluid and initiate the rewinding of the hose reel device. Applicants note that neither the cited art, nor the Office Action appears to address this aspect of these claims. As such, Applicants note that not all of the elements have been taught by the Examiner's proposed combination. As such, a *prima facie* case of obviousness has not been established in regard to these claims. Applicants respectfully request that the rejections be withdrawn and the claims allowed.

Claim 21 is nonobvious

Claim 21 recites that the signal from the remote control has a duration that is at least as long as the period that the wireless receiver is in its unpowered state. Applicants note that this element was not addressed in the Office Action or discussed in the references and thus not all of the elements have been addressed in the Office Action. As such, a *prima facie* case of obviousness has not been established for this claim.

Applicants note that on page 5 of the Office Action, the Examiner addresses various powered state frequencies for the receiver, and how these could be varied to save power. However, this does not address the duration of time that the signal sent from the remote control is to last or the issues involved with the effective operation of the remote control.

In addition, Applicants note that the duration of the transmitted signal is a variable that was not recognized as a “result effective variable” in the cited art. This is because Rudrich taught that the transmitter and receiver were always powered at the same time. Thus, Rudrich did not even contemplate this as a possible variable to optimize. As there is no recognition by the cited art of the relevance of this variable, the presently claimed element could not have been obvious to one of skill in the art based upon the cited teachings.

Claims 22, 23, 35, 38, and 39 are nonobvious over Erickson, Lutz, Carrio and Manor

The Examiner has asserted that Claims 22, 23, 35, 38, and 39 are obvious over Erickson in view of Lutz, Carrio, and Manor. The Examiner has asserted that Lutz teaches reducing the voltage to a valve before the valve is intended to stop. In making this rejection, the Examiner relies on cited sections (figure 3 and Col. 2 lines 19-37), which actually appear to teach that the device is stationary during the reduced voltage. In particular the cited sections note the following:

supplying a large magnitude regulated switching current to the solenoid valve coil to achieve switch on of the solenoid valve armature... reducing the switching current magnitude to a lower level which is sufficient to hold the armature in the switch on position.

(emphasis added, Col. 2, lines 19-24 and see also Col. 3, lines 6-20 (explaining that at value i_3 (at time t_1) that the solenoid is fully switched on, which, according to FIG. 3, occurs prior to the decrease in current). Thus, it is clear that Lutz teaches that a large amount of current is supplied to switch on the valve, and that the reduction only occurs after the valve armature is held in the on position. As such, Lutz does not teach the relevant power control unit or method step. For example, Claim 22 recites “reducing the voltage to the mechanical device after the mechanical device begins moving and before the mechanical device is intended to stop.” Therefore, the cited art does not include each of the claimed elements and a *prima facie* case of obviousness has not been established.

Claims 22, 24, 38, and 40 are nonobvious over DeVito in view of Conner and Carrio.

The Examiner has asserted that Claims 22, 24, 38, and 40 are obvious over DeVito in view of Conner, Carrio, and Manor. In doing so, the Examiner has asserted that Conner

"discloses a power control unit configured to reduce power consumption...." However, the cited sections in Conner do not appear to be directed to power conservation, but rather optimizing other aspects, such as improving a flux profile. Applicants note that the improved flux profile does not necessarily result in the recited power conservation aspects. In other words, just because there is a change in voltage, does not mean that there must be a conservation in power (for example, if a larger initial force was used to achieve some effect, the resulting power use could actually be greater). Indeed, it appears that the device in Conner uses more current than the standard device (as shown in Figure 3A, in which the current of the taught device starts above that of a traditional or conventional system). Because the device in Conner appears to use more current than the conventional device, it should not be considered to be a "power control unit configured to reduce power consumption..." Indeed, if anything, Conner is teaching the use of more current to achieve faster ramp up times, rather than less voltage, to conserve power. As such, not all of the elements have been taught by the cited art and a *prima facie* case of obviousness has not been established. Applicants request that the rejections be withdrawn and the claims allowed.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicants reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

In addition, Applicants note that the previously pending element of "a housing containing said flow controller and said hose reel device" has been removed from numerous claims, resulting in a claim set that is broader than the previous claim set, although still within the

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bounds of the claims as originally examined. Similarly, several of the claims have been amended to remove the element of the remote control being "configured to command the motor to both wind and unwind the hose about the reel." This also results in a broader claim that is still within the bounds of the claims as originally examined.

Co-Pending Applications of Assignee

Applicant wishes to draw to the Examiner's attention to the following issued application of the present application's assignee.

Serial Number	Title	Filed
11/174152 7,216,659	LOW POWER SYSTEM FOR WIRELESS MONITORING OF AN ENVIRONMENT AND IRRIGATION CONTROL	6/30/05 5/15/07

In view of the foregoing amendments and remarks, Applicants respectfully submit that the pending claims are in condition for allowance and request the same. If, however, some issue remains that the Examiner feels can be addressed by Examiner Amendment, the Examiner is cordially invited to call the undersigned for authorization.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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